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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference SJ-11923-1WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/CA 03/01957	International filing date (day/month/year) 19.12.2003	Priority date (day/month/year) 10.01.2003
International Patent Classification (IPC) or both national classification and IPC B29C47/70, B29C47/58, B29C47/06		
Applicant LUPKE, Manfred, A. A. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I Basis of the opinion
- II Priority
- III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV Lack of unity of invention
- V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI Certain documents cited
- VII Certain defects in the international application
- VIII Certain observations on the international application

Date of submission of the demand 06.08.2004	Date of completion of this report 15.04.2005
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 eprmu d Fax: +49 89 2399 - 4465	Authorized Officer Lorente Munoz, N Telephone No. +49 89 2399-2989



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/CA 03/01957

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-11 as originally filed

Claims, Numbers

6 (part) as originally filed
1-5, 6 (part) filed with telefax on 24.03.2005

Drawings, Sheets

1/6-6/6 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:
- the drawings, sheets:

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5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-6
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-6
Industrial applicability (IA)	Yes: Claims	1-6
	No: Claims	

2. Citations and explanations

see separate sheet

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International application No. PCT/CA 03/01957

Reference is made to the following documents:

- D1: WO 00/07801 A
D2: EP-A-0 363 716 (not cited in the international search report)
D3: DE 40 10 404 A1 (not cited in the international search report)

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

- 1 The application relates to an equipment used in the molding of plastic pipes.
- 2 The document D1 is regarded as the closest prior art to the subject-matter of claim 1 and, insofar as this claim can be understood (see paragraphs X and Y), this document shows an equipment used in the molding of a plastic pipe (see abstract) comprising the following features (the references in parentheses applying to this document):
 - a plastic supply which provides molten plastic for making the pipe (see figures, element 29),
 - die tooling having an internal die passage to carry the molten plastic to a molding region where the pipe is shaped, the die tooling having an upstream end fitted with a flow distributor the die passage having a ring shaped mouth covered by the flow distributor at the upstream end of the die tooling (see figures, elements 13a, 13b),
 - the plastic supply being located remotely of the die tooling and said equipment including a plastic feed from the plastic supply to the flow distributor (see figures).

The subject-matter of claim 1 differs from the document D1 in that the flow distributor having a first plastic flow path which is adjustable.

However, adjustments on flow paths or plastic flows are operational means which the person skilled in the art would take at his discretion and do not appear to involve an

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inventive step (Article 33(3) PCT).

Furthermore, documents D2 (see figure, element 52) and D3 (see figure, elements 44, 49) show adjust mechanisms similar to those used in the application. It would be obvious to the person skilled in the art, namely when the same result is to be achieved, to apply these features with corresponding effect to an equipment according to document D1, thereby arriving at an equipment according to claim 1.

Thus, the subject-matter of claim 1 can not be considered as involving an inventive step (Article 33(3) PCT).

- 3 In view of document D1 (see e.g. figures), the additional feature "*second die passage*" set out in dependent claim 2 is already known. Taking into account the arguments cited above for claim 1, the subject-matter of claim 2 can neither be considered as involving an inventive step (Article 33(3) PCT).
 - 4 In view of document D1, the additional features set out in dependent claims 3 to 5 concern design means which the person skilled in the art would take at his discretion and do not appear to involve an inventive step (Article 33(3) PCT).
 - 5 In claim 6 a slight constructional change (connecting branch 22) in the apparatus of claim 2 is defined which comes within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can readily be foreseen (flexibility by manufacturing pipes). Consequently, the subject-matter of claim 6 can not be considered as involving an inventive step (Article 33(3) PCT).
 - 6 Claims 1 to 6 meet the requirements of the PCT with respect to the industrial applicability (Article 33(4) PCT).
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- 7 Claim 1 does not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined. The claim attempts to define the subject-matter in terms of the result to be achieved ("*...which is adjustable to vary the*

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distribution... to produce an even distribution...") which merely amounts to a statement of the underlying problem. The technical features necessary for achieving this result should be added.

- 8 Claim 1 does not meet the requirements of Article 6 PCT because it is not clear whether the Applicant means the flow path (claim 1) or the plastic flow as "*adjustable*".
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- 9 Independent claim 1 is not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (document D1) being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
- 10 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
- 11 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 is not mentioned in the description, nor is this document identified therein.

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. Equipment used in the molding of plastic pipe, said equipment comprising a plastic supply which provides molten plastic for making the pipe, die tooling having an internal die passage to carry the molten plastic to a molding region where the pipe is shaped, the die tooling having an upstream end fitted with a flow distributor the die passage having a ring shaped mouth covered by the flow distributor at the upstream end of the die tooling, the plastic supply being located remotely of the die tooling and said equipment including a plastic feed from the plastic supply to the flow distributor, the flow distributor having a first plastic flow path which is adjustable to vary the distribution the molten plastic from the plastic supply around the ring shaped mouth of the die passage to produce an even distribution of the molten plastic from the die passage at the molding region.
2. Equipment as claimed in Claim 1 wherein said die tooling includes a second die passage having a ring shaped mouth which is outwardly around the mouth of the first die passage and which is also covered by the flow distributor, the flow distributor having a second plastic flow path which is adjustable to vary the distribution of the molten plastic from the plastic supply around the mouth of the second die passage to produce an even distribution of the molten plastic from the second die passage at the molding region.
3. Equipment as claimed in Claim 2 wherein said flow distributor comprises a plate secured to the upstream end of said die tooling, said plate including a first plate portion which feeds through the first plastic flow path to the mouth of the first die passage and a second plate

portion which feeds second plastic flow path to the mouth of said second die passage, said first and second plastic flow paths both being adjustable and being adjustable independently of one another.

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4. Equipment as claimed in Claim 2 wherein said plastic supply comprise a single extruder and wherein said plastic feed comprises a single conduit from said extruder to first and second supply branches of said plastic supply, said first supply branch feeding to the first plastic flow path of the flow distributor around the mouth of the first die passage, the second supply branch feeding to the second plastic flow path of the flow distributor around the mouth of the second die passage.

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5. Equipment as claimed in Claim 2 wherein said plastic supply comprises first and second extruders, said plastic feed comprising a first conduit from said first extruder to the first plastic flow path of said flow distributor around the mouth of said first die passage and a second conduit from said second extruder to the second plastic flow path of said flow distributor around the mouth of said second die passage.

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6. Equipment as claimed in Claim 2 wherein said plastic supply comprises first and second extruders, said plastic feed comprising a first conduit from said first extruder and a second conduit from said second extruder, a first supply branch feeding to the first plastic flow path of the flow distributor around the mouth of the first die passage, a second supply branch feeding to the second plastic flow path around the mouth of the second die passage, and a connecting branch between said first and second supply branches, both said first and said second conduits from said first and second extruders